UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,588	10/31/2003	Ezio Valdevit	112-0124US	1886

85197   7590   07/07/2009
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EXAMINER
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ART UNIT	PAPER NUMBER
2416	

MAIL DATE	DELIVERY MODE
07/07/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/699,588	VALDEVIT, EZIO
Office Action Summary	Examiner	Art Unit
	MOHAMMAD S. ADHAMI	2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>30 April 2009</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-72</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-72</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a) ☐ All   b) ☐ Some * c) ☐ None of:

　　　　1. ☐ Certified copies of the priority documents have been received.

　　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.

　　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

- Applicant's RCE filed 4/30/2009 is acknowledged.

- Claims 1,3,19,21,37,39,55, and 57 have been amended.

- Claims 73-82 are cancelled.

- Claims 1-72 are pending.

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

4/30/2009 has been entered.

Claim Objections

2.   Claim 14 is objected to because of the following informalities: "to determine the a

destination" should be "to determine a destination". Appropriate correction is required.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claims 55-72 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Claims 55-72 are rejected under 35 U.S.C. 101 as not falling within one of

the four statutory categories of invention. While the claims recite a series of

steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must

(1) be tied to particular machine, or (2) transform underlying subject matter (such

as an article or material) to a different state or thing. See page 10 of In Re Bilski

88 USPQ2d 1385. The instant claims are neither positively tied to a particular

machine that accomplishes the claimed method steps nor transform underlying

subject matter, and therefore do not qualify as a statutory process.   The claimed

method including steps of receiving, adding, and providing is broad enough that

the claim could be completely performed mentally, verbally or without a machine

nor is any transformation apparent.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

1.   Claim 1-12,16-30,34-48, and 52-66, and 70-72 are rejected under 35 U.S.C.

103(a) as being unpatentable over Cometto (US 7,206,288) in view of Soumiya (US

6,671,257).

Re claims 1,19,37, and 55:

Cometto discloses *a first and second node fibre channel device connected*

to a fabric (Fig.1 ref.103 and 123 are node devices).

Cometto further discloses *a fibre channel fabric connected to the first and*

second node devices (Fig.1 ref. 131).

Cometto further discloses *the fibre channel fabric including a first fibre*

channel switch and a second fibre channel switch coupled to the first switch

(Fig.1 ref. 101,111,113,115,117,119, 121 are coupled fibre channel switches).

Cometto further discloses *the first and second switch having previously*

determined all routes between all switches and all nodes in the fabric (Col.1 lines

35-37 determining characteristics associated with routes in fibre channel

networks and Col.6 lines 31-32 synchronization is maintained with other fibre

channel switches).

Cometto further discloses *a plurality of ports configured to receive and*

transmit frames (Col.6 lines 38-39 received at an input port. It should be noted

that a fibre channel switch can have one or more input ports and Col.6 line 59 an

output port is then selected).

Cometto further discloses *a fabric manager coupled to the ports to obtain*

the received frame and provide a frame to be transmitted (Fig.1 where the fibre

channel switches contain ports and Col.1 lines 50-51 the fibre channel frame is transmitted downstream toward the destination).

Cometto further discloses *the fabric manager configured to add information to the frame, the information including receive and transmit port identity and switch identity* (Col.6 lines 46-50 changing header information as well as adding information such as an input port number and a field uniquely identifying the switch and Col.7 lines 21-22 source and destination identifiers in the frames are swapped).

Cometto does not explicitly disclose *adding measured transmit and receive rates of the port receiving the frame to the frame.*

Soumiya discloses *adding measured transmit and receive rates of the port receiving the frame to the frame* (Fig.26 ref. 8~9 is a rate field and Col.37 line 44-Col.27 lines 52-67 calculates the ER based on the result of the measurement and Col.38 line 15 counting the number of arrived cells during an observation time and using that measurement in calculating the ER).

Cometto and Soumiya are analogous because they both pertain to network communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cometto to include rate information as taught by Soumiya in order to more efficiently choose a path for transmission and to minimize congestion.

Re claims 2-7,20-25,38-43, and 56-61:

As discussed above, Perlman meets all the limitations of the parent claim.

Cometto further discloses *information including the link cost of a link*

(Col.6 lines 53-55 the techniques of the present invention provide mechanisms

for determining characteristics for transmission between many hops in a route

between a source and the destination - where the determined characteristics are

a "link cost").

Cometto does not explicitly disclose *the information including transmit and*

receive rates based on a first defined period and a second defined period that is

greater than the first defined period and the number of frames and words

transmitted and received.

Soumiya discloses *the information including transmit and receive rates*

based on a first defined period and a second defined period that is greater than

the first defined period and the number of frames and words transmitted and

received (Fig.26 ref. 8~9 is a rate field, Col.26 lines 21-23 the rate changing unit

may change the explicit rate that the rate calculating unit calculates at a

predetermined ratio and Col.35 lines 21-36 the prolongment of the observation

period means that an interval between ER calculation times becomes longer.

The capability for calculating the ER in an observation period which is shorter

than a specified observation period and Col.7 lines 27-28 "an arrived cell number

counter for counting a number of arrived cells in correspondence with an output

channel" where calculating the transmission rate also contains information about the amount of frames and words transmitted).

Cometto and Soumiya are analogous because they both pertain to network communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cometto to include rate information as taught by Soumiya in order to more efficiently choose a path for transmission and to minimize congestion.

Re claims 8,26,44, and 62:

Cometto discloses *an original source and an original destination* (Col.1 lines 46-47 The fibre channel frame identifies the source fibre channel switch and a destination).

Cometto further discloses *adding information to the frame when the frame is traveling from the original source to the original destination* (Col.4 lines 46-48 Each intermediate hop in the route toward the destination also inserts time stamp information into the frame).

Re claims 9,27,45, and 63:

Cometto discloses *adding information to the frame when the frame is traveling from the original destination to the original source* (Col.7 lines 9-35 A loopback switch may also be a destination switch. Source and destination identifiers in the frame are swapped. Other source and destination information is swapped).

Re claims 10,28,46, and 64:

Cometto discloses *a node connected to one of the plurality of ports and transmitting the frame to the node device* (Col.3 lines 30-31 a frame sent from source channel switch toward a host and Col.4 line 58 a host is the end node – where a host is a device connected to a port and Fig.1 ref.123).

Re claims 11,12,29,30,47,48,65, and 66:

Cometto discloses *selecting the port to transmit the frame based on source routing information contained in the frame* (Col.2 lines 7-8 the fibre channel frame identifying the source fibre channel switch and a destination - where the source and destination information is used to route the frame).

Re claims 16,34,52, and 70:

Cometto discloses *an extended link services frame* (Fig.2 Extended Inter-switch Links header).

Re claims 17,35,53, and 71:

Cometto discloses *determining if the switch is the original destination of the frame, and if so, modifying the frame to cause it to return to the original source* (Col.7 lines 9-35 A loopback switch may also be a destination switch. Source and destination identifiers in the frame are swapped. Other source and destination information is swapped).

Re claims 18,36,54, and 72:

Cometto discloses *determining if the switch was the original source of the frame and if so, to capture the frame and not further transmit the frame* (Col.1

lines 47-50 The fibre channel frame includes a loopback field indicating that the fibre channel frame should be looked back to the source fibre channel switch).

2.   Claims 13,31,49, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cometto in view of Soumiya as applied to claims 12,30,48, and 66 above, and further in view of Wong (US 6,363,077).

Re claims 13,31,49, and 67:

As discussed above, Cometto meets all the limitations of the parent claims.

Cometto does not explicitly disclose *using normal routing rules if the source routing information does not indicate a device directly connected to the switch*.

Wong discloses *using normal routing rules if the source routing information does not indicate a device directly connected to the switch* (Col.9 lines 53-67 If the destination port is a local network port of the current receiving device, only a local transaction must be processed. If the destination port is a network port of a device of the fabric other than the current receiving device, the data packet must be transferred from the current receiving device to the destination device via the data ring by processing).

Cometto and Wong are analogous because they both pertain to data communication.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cometto to include using normal routing rules if the

source routing information does not indicate a device directly connected to the

switch as taught by Wong in order to process transmit a packet to the destination

and to allow packet processing.

3.   Claims 14,32,50, and 68 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Cometto in view of Soumiya as applied to claims 12,30,48, and 66

above, and further in view of Fredericks (US 6,347,334).

Re claims 14,32,50, and 68:

As discussed above, Cometto meets all the limitations of the parent

claims.

Cometto further disclsoses *determining a destination address by retrieving*

data from the frame payload (Fig.2 ref.221,223,225, and 227 and Col.5 lines 26-

37 a world wide name (WWN)).

Cometto does not explicitly disclose *the frame is destination addressed to*

a well known address.

Fredericks discloses *the frame is destination addressed to a well known*

address (Col.6 lines 29-31 the RNID ELS message is sent to the Fabric

Controller at the address hex "FFFFFD" as is well known).

Cometto and Fredericks are analogous because they both pertain to data

communications.

It would have been obvious to one of ordinary skill in the art at the time of

the invention to modify Cometto to include a frame destined to a well known

address as taught by Fredericks in order to use a standard network setup and standard and well-known messaging.

4.   Claims 15,33,51, and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cometto in view of Soumiya as applied to claims 12,30,48, and 66 above, and further in view of Kanetake (US App. 2003/0137978).

Re claims 15,33,51, and 69:

As discussed above, Cometto meets all the limitations of the parent claims.

Cometto does not explicitly disclose *a plurality of equal cost routes that can be used for transmitting and transmitting the frame over all of such routes*.

Kanetake discloses *a plurality of equal cost routes that can be used for transmitting and transmitting the frame over all of such routes* **(Para.[0004] Equal Cost Multipath (ECMP). If the topology is such that equal cost paths exists, then an attempt is made to divide traffic equally among the paths)**.

Cometto and Kanetake are analogous because they both pertain to data communication.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cometto to include routing the frame over all equal cost routes as taught by Kanetake in order to efficiently use resources and load balance.

Response to Arguments

5.   Applicant's arguments filed 4/30/2009 have been fully considered but they are

not persuasive.

In the remarks, Applicant contends in Soumiya does not disclose

measuring actual data transfers.

The Examiner respectfully disagrees. Soumiya does disclose measuring

actual data transfers (Fig.26 ref. 8~9 is a rate field and Col.37 line 44-Col.27 lines

52-67 calculates the ER based on the result of the measurement and Col.38 line

15 counting the number of arrived cells during an observation time and using that

measurement in calculating the ER). The amount of cells received in an

observation period is measured and the rate is calculated based on this

measurement. Therefore the rate in Soumiya is a measured rate. Furthermore,

in response to applicant's argument that the references fail to show certain

features of applicant's invention, it is noted that the features upon which applicant

relies (i.e., measuring actual data transfers) are not recited in the rejected

claim(s). Although the claims are interpreted in light of the specification,

limitations from the specification are not read into the claims. See *In re Van*

Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Dobbins (US App.2005/0083949 2003/0137978 6,363,077)

shows routing over equal cost paths.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MOHAMMAD S. ADHAMI whose telephone number is

(571)272-8615. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammad S Adhami/   /Chi H Pham/
Examiner, Art Unit 2416   Supervisory Patent Examiner, Art
                                              Unit 2416
                                              7/6/09